

REMARKS

The Office Action dated December 26, 2008 has been received and reviewed. This response, submitted along with a Petition for a Three-Month Extension of Time, is directed to that action.

Claims 12 and 16 have been amended. No new matter has been added.

The applicants respectfully request reconsideration in view of the foregoing amendments and the following remarks.

Claim Rejections- 35 U.S.C. §112

The Examiner rejected claim 12 under 35 U.S.C. §112, second paragraph as indefinite because the claim did not end in a period and was missing a closing bracket within the claim. These informalities have been corrected by amendment herein, thus rendering this rejection moot.

Claim Rejections- 35 U.S.C. §102

The Examiner rejected claims 12 and 16 under 35 U.S.C. §102(b) as anticipated by Dearborn DN 48:13253 ((1953) Abstract) and by Ciba DN 57:75868 ((1962) Abstract). The applicants respectfully traverse these rejections.

To anticipate a claim, a reference must disclose each and every element of the claimed invention. *Verdegaal Bros. v. Union Oil Co. of Cal.*, 814 F.2d 628, 2 USPQ2d 1051 (Fed. Cir. 1987). The applicants respectfully submit that neither Dearborn nor Ciba teach all of the elements of the pending claims.

The presently claimed invention, as amended, is directed to a compound having an adamantane skeleton as the central skeleton and gylcidoxy groups, wherein at least two gylcidoxy groups are directly bonded to the tertiary carbon atom of the adamantane skeleton.

Dearborn and Ciba both teach polysubstituted –oxy methylene epoxy polycyclic hydrocarbons, but neither references teaches the compound as claimed in present claim 12 or 16. Accordingly, the applicants submit that neither Dearborn nor Ciba anticipate the presently claims and respectfully request that the Examiner withdraw this rejection.

Claim Rejections- 35 U.S.C. §103

The Examiner rejected claims 12-20 under 35 U.S.C. §103(a) as obvious over Dearborn and Ciba. The Examiner stated that to use somewhat different but otherwise analogous starting materials in an otherwise known process would have been obvious to one of ordinary skill in the art. The applicants respectfully traverse this rejection.

The applicants submit that a *prima facie* case of obviousness cannot be established against the present claims because a person of ordinary skill in the art would not be motivated to modify the products and processes of either Dearborn or Ciba to arrive at the presently claimed invention because the differences between either Dearborn or Ciba and the presently claimed invention are outside the level of ordinary skill in the art.

The adamantane compound of the presently claimed invention differs greatly from the compounds disclosed in Dearborn or Ciba in several key aspects which are outside the level of ordinary skill in the art. In the compounds of Dearborn and Ciba, the hydroxyl group bonded to the benzene ring of bisphenol compound or to the skeletal compound of polycyclic hydrocarbons has a high reactivity. However, in polycyclic hydroxyl compounds, the hydroxyl group bonded to the tertiary carbon of the adamantane skeleton has extremely low reactivity. The molecular structure of hydroxyadamantane is complex, and the hydroxyl group bonds to the tertiary carbon. Thus, the skilled artisan knows and recognizes that the adamantane compound of the presently claimed invention has very different chemical properties than the compounds of either Dearborn or Ciba. Accordingly, the applicants

submit that the presently claimed compound is not obvious in view of the cited prior art.

Moreover, the applicants submit that the presently claimed process, as embodied in claim 19, is not obvious because neither Dearborn nor Ciba teach or suggest a process for making the adamantane compound of the presently claimed invention. In fact, it is impossible to produce the compound of the present invention by the method described in Dearborn. The enclosed declaration compares a method according to Dearborn and a method according to the presently claimed invention. In Experiment 1, the method taught in Dearborn wherein 1,3-adamantandiol was reacted with epichlorohydrin using sodium hydroxide. In this experiment, no reaction took place and no 1,3-bis(glycidoxoxy)adamantane was produced.

Meanwhile, Experiment 2 shows that 1,3-bis(glycidoxoxy)adamantane at a yield of 60% was produced according to the method of claim 19. That is, 1,3-adamantanediol was converted to an alcoholate by using sodium hydride. Indeed, step (a) of claim 19, wherein the diadamantanol is converted to an alcholate by using an akali metal hydride or alkali metal is neither taught nor suggested by either Dearborn or Ciba. Moreover, a person of ordinary skill in the art would not have found this step to be within the level of skill in the art. Accordingly, the applicants submit that a *prima facie* case of obviousness cannot be established, and respectfully request that the Examiner withdraw these rejections.

The applicants believe the claims are now in condition for allowance, and such favorable action is respectfully requested. If any issues remain, the resolution of which can be advanced through a telephone conference, the Examiner is invited to contact the applicant's attorney at the phone number listed below.

CONDITIONAL PETITION FOR EXTENSION OF TIME

If entry and consideration of the amendments above requires an extension of time, Applicants respectfully request that this be considered a petition therefor. The Assistant Commissioner is authorized to charge any fee(s) due in this connection to Deposit Account No. 14-1263.

ADDITIONAL FEE

Please charge any insufficiency of fees, or credit any excess, to Deposit Account No. 14-1263.

Respectfully submitted,
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